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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,423	10/10/2003	Jong-Min Wang	Q77871	9619
23373	7590	05/21/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			KIM, RICHARD H	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant No.

10/682,423

Applicant(s)

WANG, JONG-MIN

Examiner

Richard H Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 5,245,451) in view of Son et al. (US 6,545,738 B2), Johnson et al. (US 5,073,010) and Tanada et al. (US 6,671,015 B2).

Wu et al. discloses a method of driving a reflective type liquid crystal display having a polarization beam splitter (1), a display panel in which a liquid crystal (16) is filled between first electrode layers, disposed to be opposite to each other (28, 32), a compensation panel (4) in which liquid crystal is filled between second electrode layer, disposed opposite to each other (28', 32'), and the first and second electrode, comprising the steps of: applying an AC potential to the second electrode layer of the compensation panel; and applying an AC potential to the first electrode layer of the display panel (col. 4, lines 34-39). However, the reference does not disclose that half-V type ferroelectric liquid crystal is used.

Son et al. discloses utilizing a half-V type ferroelectric liquid crystal in a liquid crystal cell (col. 1, lines 40-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a half-V type ferroelectric liquid crystal in the compensation

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panel and the display panel since one would be motivated to enhance a contrast ratio and enables the liquid crystal to be easily driven (col. 1, lines 43-44).

Furthermore the reference does not disclose that the first and second electrode layers are orthogonal to each other.

Johnson et al. discloses applying an AC potential corresponding to a gray scale of display data (col. 3, lines 45-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply an AC potential corresponding to a gray scale of display data since one would be motivated to create a linear gray level operation (col. 4, lines 57-59).

Moreover, the reference does not disclose that the electrodes are orthogonal to each other.

Tanada et al. discloses electrodes disposed orthogonal to each other (col. 7, lines 27-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the electrodes to be disposed orthogonal to each other since one would be motivated to enable a passive matrix type liquid crystal (col. 6, line 39).

Allowable Subject Matter

3. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination fails to teach the method wherein an AC potential, by which an included angle between an axis of the liquid crystal of the compensation

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panel and an axis of the liquid crystal of the display panel in a case that a potential is not applied to the display panel is varied within a range of 67.50-900, is applied to the second electrode layers of the compensation panel.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim
Examiner
Art Unit 2871

RHK


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800